

ABSTRACT OF THE DISCLOSURE

The present invention relates to a method of immobilizing aqueous waste, including low level nuclear waste, by converting the waste to a solid.

Solidification is accomplished with the addition of a compound having the formula

- 5 Me(II)O or Me(II)(OH)₂ in combination with compounds of the general formula
Me(II)O·R₂O₃, R₂O₃, R(OH)₃ or ROOH, where Me is a cation selected from the
group consisting of Ca, Ba, Sr, Mn, and Zn, and R is selected from the group
consisting of Al, Fe and Cr. Exemplary compounds of the above formula include
commercially available calcium aluminate cements, which when added to the waste in
10 combination with a hydroxide of a divalent metal, bind the nitrate ions or nitrite ions
in the waste and convert it to a solid.